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(54) VIRUS FREE MODULE

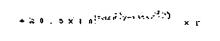
(57) Abstract:

PURPOSE: To obtain a small-sized separator for separating and removing virus, especially, between a feeder having a blood preparation dissolved therein and a human body without adsorbing the protein component in the blood preparation, by using a porous hollow fiber composed of cuprammonium regenerated cellulose satisfying a specific formula.

CONSTITUTION: Cuprammonium regenerated cellulose is prepared under such manufacturing condition that virus particles blocking coefficient ϕ uniquely determined according to formula 1 based on a virus diameter V(nm), the water flow speed average pore size D(nm) or a membrane and a membrane thickness $T(\mu m)$

becomes 3 or more, and a porous hollow fiber 1 is

formed from said cellulose. The A-part at one end of the hollow fibers 1 is embedded in a filler 2 and the B-part at the other end thereof is hermetically sealed to form a hollow fiber structure. One end of a tubular body 3 is perfectly sealed to one end part A and united with a joint part 4 mountable to a syringe. The open end part of the tubular body 3 to the external system is made present in the same plane as the position of one end part B. In use, the syringe is inserted in the joint part 4 and one end part B is directly inserted in a drug bottle receiving a blood (plasma) preparation to suck said preparation by the syringe.





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PA - (ASAH) ASAHI CHEM IND CO LTD

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- AB J63088007 Module comprises porous and regenerated cellulose hollow fibres made by the copper ammonium process, the fibres satisfy the formula
 - phi = $0.5 \times 10 (3.01 \times 10 \text{ power -3 V} 2.34 \times 10 \text{ power -2 D}) \times T (I)$
 - where phi is the checking coefficient which = 3. An end (A) of the fibre is embedded in filler and opened to the outside and the other end (B) is sealed or embedded in the filler at the same position. The hollow fibre structure is fitted in a tubular body opened at one end. The end of the tubular body and that of the hollow fibre are in the same plane, and one end side of the fibre has a joint attachable with an injector, where V is virus gp. (nm); D is water flow velocity mean bore (nm) and T is film thickness (micro-m).
 - ADVANTAGE The module removes viruses causing diseases without losing major protein component in blood plasma. Time series variation of filtration speed is small and filtering is rapid. Virus free filtration liq. is easily recovered in the injector directly.(0/3)
- IW VIRUS FREE MODULE FLUID SEPARATE ULTRAFILTER COMPRISE POROUS HOLLOW REGENERATE CELLULOSE FIBRE SPECIFIC CHECK COEFFICIENT FIT TUBE BODY OPEN ONE END
- IKW VIRUS FREE MODULE FLUID SEPARATE ULTRAFILTER COMPRISE POROUS HOLLOW REGENERATE CELLULOSE FIBRE SPECIFIC CHECK-COEFFICIENT FIT TUBE BODY OPEN ONE END

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TI - Virus-free module or fluid separator for ultrafiltration etc. comprises porous and hollow regenerated cellulose fibres having specific checking coefficient and fitted in tubular body open at one end